



**6560-50-P**

**ENVIRONMENTAL PROTECTION AGENCY**

**[EPA-HQ-OAR-2020-0104; FRL-10012-26-OAR]**

**E85 Flexible Fuel Vehicle Weighting Factor (F-factor) for Model Years 2021 and Later Vehicles**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice.

**SUMMARY:** The Environmental Protection Agency (EPA) is requesting comment on data sources and analytical approaches on which to base an EPA determination of an updated weighting factor (F-factor) for E85 flexible fuel vehicles for model years 2021 and later. The F-factor for a given vehicle model year is used to weight the greenhouse gas (GHG) emissions of a flexible fuel vehicle operating on E85 with the GHG emissions of the vehicle operating on conventional gasoline, when calculating the compliance value for that model year. The F-factor is also used in the Corporate Average Fuel Economy program for weighting the measured fuel economy of flexible fuel vehicles when operating on E85.

**DATES:** Comments must be received on or before **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** You may send comments, identified by Docket ID No. EPA-HQ-OAR-2020-0104, by any of the following methods:

- Federal eRulemaking Portal: <https://www.regulations.gov/> (our preferred method). Follow the online instructions for submitting comments.

- E-mail: [a-and-r-Docket@epa.gov](mailto:a-and-r-Docket@epa.gov). Include Docket ID No. EPA-HQ-OAR-2020-0104 in the subject line of the message.
- Fax: (202) 566-9744 Include Docket ID No. EPA-HQ-OAR-2020-0104 on the cover of the fax.
- Mail: U.S. Environmental Protection Agency, EPA Docket Center, OAR, Docket EPA-HQ-OAR-2019-0210, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460.
- Hand Delivery / Courier: EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue, NW, Washington, DC 20004. The Docket Center's hours of operations are 8:30 a.m. – 4:30 p.m., Monday – Friday (except Federal Holidays).

*Instructions:* All submissions received must include the Docket ID No. for this rulemaking. Comments received may be posted without change to <https://www.regulations.gov/>, including any personal information provided. For detailed instructions on sending comments and additional information on the rulemaking process, see the “Public Participation” heading of the **SUPPLEMENTARY INFORMATION** section of this document. Out of an abundance of caution for members of the public and our staff, the EPA Docket Center and Reading Room are closed to the public, with limited exceptions, to reduce the risk of transmitting COVID-19. Our Docket Center staff will continue to provide remote customer service via email, phone, and webform. We encourage the public to submit comments via <https://www.regulations.gov/> or email, as there may be a delay in processing mail and faxes. Hand deliveries and couriers may be

received by scheduled appointment only. For further information on EPA Docket Center services and the current status, please visit us online at <https://www.epa.gov/dockets>.

**FOR FURTHER INFORMATION CONTACT:** Christopher Lieske, Office of Transportation and Air Quality, Assessment and Standards Division, U.S. Environmental Protection Agency, 2000 Traverwood Drive, Ann Arbor, MI 48105. Telephone: (734) 214-4584. Fax: (734) 214-4816. Email address: [lieske.christopher@epa.gov](mailto:lieske.christopher@epa.gov).

**SUPPLEMENTARY INFORMATION:**

**I. Public Participation**

EPA will keep the record open until **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. All information will be available for inspection at the EPA Air Docket No. EPA-HQ-OAR-2020-0104. Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2020-0104, at <https://www.regulations.gov> (our preferred method), or the other methods identified in the ADDRESSES section. Once submitted, comments cannot be edited or removed from the docket. The EPA may publish any comment received to its public docket. Do not submit to EPA's docket at <https://www.regulations.gov> any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e. on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and

general guidance on making effective comments, please visit

<https://www.epa.gov/dockets/commenting-epa-dockets>.

The EPA is temporarily suspending its Docket Center and Reading Room for public visitors, with limited exceptions, to reduce the risk of transmitting COVID-19. Our Docket Center staff will continue to provide remote customer service via email, phone, and webform. We encourage the public to submit comments via

<https://www.regulations.gov/> as there may be a delay in processing mail and faxes. Hand deliveries or couriers will be received by scheduled appointment only. For further information and updates on EPA Docket Center services, please visit us online at <https://www.epa.gov/dockets>.

The EPA continues to carefully and continuously monitor information from the Centers for Disease Control and Prevention (CDC), local area health departments, and our Federal partners so that we can respond rapidly as conditions change regarding COVID-19.

## **II. Background**

Under EPA's greenhouse gas (GHG) program for passenger automobiles and light trucks, starting with the 2016 model year, the regulations describe how to determine the GHG value for flexible fuel vehicles (FFVs) that run either on gasoline or on E85 (a fuel mixture of 85 percent ethanol and 15 percent gasoline). A weighting factor, referred to as the F-factor, is used to weight the gasoline and E85 emissions values of the tested vehicle model together to determine the combined value to be used for the vehicle model in the fleet average calculations. The default approach is to use a F-factor of zero such that the CO<sub>2</sub> emissions value of the vehicle is that measured when the vehicle is operated solely

on gasoline.<sup>1,2</sup> The alternative is to combine the gasoline and E85 CO<sub>2</sub> values together in a way that accounts for real-world use of E85 by using an alternative F-factor established by EPA.<sup>3</sup> Note also that EPA regulations for heavy-duty chassis-certified vehicles (in the “2b/3” categories) point to the light-duty F factor regulations, allowing these heavy-duty vehicles to use an F factor determined for light-duty trucks under those regulations.<sup>4</sup>

EPA’s regulations establish two different approaches that may be used to determine the value of the F-factor. Manufacturers may request that EPA determine and publish by guidance an appropriate value for the E85 F-factor, based on EPA’s assessment of the real-world use of E85, to be used fleetwide. Alternatively, a manufacturer may submit data demonstrating the actual real-world use of E85 by its vehicles. EPA would determine whether the data is adequate and what an appropriate F-factor should be for the manufacturer.

Corporate Average Fuel Economy (CAFE) regulations specify that starting with MY 2020, an F-factor, once established by EPA, will also be used in CAFE to weight FFV fuel economy on conventional gasoline test fuel and E85 in determining the FFV’s model type fuel economy.<sup>5</sup>

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<sup>1</sup> 40 CFR 600.510-12(c)(v) and (j)(vi) specify the use of an F-factor of 0 unless an alternative F-factor is established by EPA under 40 CFR 600.510-12(k).

<sup>2</sup> The tailpipe GHG emissions used for compliance with the CO<sub>2</sub> standards described in 40 CFR 86.1818 are the carbon-containing emissions (generally, CO<sub>2</sub>, hydrocarbons, and carbon monoxide), which are summed based on the carbon weight fraction of each component into a value described in the regulations as the “carbon-related exhaust emissions” (CREE). For simplicity, however, in this notice we are using the term CO<sub>2</sub> instead of CREE, as CO<sub>2</sub> is more broadly understood and makes up the vast majority of the total carbon emissions from vehicles.

<sup>3</sup> 40 CFR 600.510-12(k)

<sup>4</sup> 40 CFR 86.1819-14 (d)(10)(i).

<sup>5</sup> See 40 CFR 600.510-12(c).

After receiving a request in mid-2012 that EPA establish an F-factor, EPA released a draft letter to auto manufacturers and published a notice in the Federal Register requesting comment on a draft F-factor determination in March of 2013.<sup>6</sup> Based on EPA's analysis following the comment period, and considering the public comments received by the Agency, EPA issued a final determination via a letter to auto manufacturers on November 12, 2014.<sup>7</sup> The letter prescribed an F factor of 0.14 applicable to 2016-2018 model year vehicles. In August 2019, EPA extended the use of the 0.14 F-factor to MY 2019.<sup>8</sup> EPA did not conduct a new analysis at that time due to the analytical complexities involved in determining a forward-looking estimate of real-world fuel use and the need to provide manufacturers with near-term certainty for MY 2019.

### **III. F-factor for Model Years 2020 and later**

EPA received a request from auto manufacturers to establish an F-factor for model year 2020 and later.<sup>9</sup> The last time EPA conducted a technical analysis to support the F-factor was in 2014, when we established the original F-factor for MY2016-2018 vehicles. In the 2014 analysis, EPA based the F-factor primarily on data and projections from the Energy Information Administration's (EIA's) 2014 Annual Energy Outlook. As noted in the letter to manufacturers extending the use of the 0.14 F-factor to MY 2019, EPA

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<sup>6</sup> 78 FR 17660 (March 22, 2013).

<sup>7</sup> "E85 Flexible Fuel Vehicle Weighting Factor for Model Year 2016-2018 Vehicles," EPA Office of Air and Radiation, CD-14-18, November 12, 2014.

<sup>8</sup> "E85 Flexible Fuel Vehicle Weighting Factor for Model Year 2019 Vehicles," EPA Office of Air and Radiation, CD-19-07, August 26, 2019.

<sup>9</sup> Alliance of Automobile Manufacturers letter to EPA, "F-Factor Guidance Request for MY 2020 and Later Flex Fuel Vehicles," September 3, 2020.

intended to develop a forward-looking analysis for MY 2020 and later based on EPA's "assessment of real-world use of the alternative fuel."<sup>10</sup>

EPA's intention had been to update the methodology used to set the original 2016-2018 F-factor as the basis for a new F-factor for 2020 and beyond using the latest information. However, there are at least two key factors that EPA believes must be considered further. First, in EIA's Annual Energy Outlook 2020 (AEO2020),<sup>11</sup> EIA updated and changed significantly the way it projects E85 usage which is an important input to the method we used previously. Second, the COVID-19 pandemic has significantly changed the current market conditions for fuel usage, and it is uncertain how future market conditions will be affected.

Stakeholders have suggested that AEO2020 may not properly reflect the amount of E85 consumed in future years by FFVs.<sup>12</sup> There are indeed significant changes in AEO2020 in both methodology and results compared to previous versions of AEO as discussed in EPA's technical memorandum to the docket.<sup>13</sup> In addition, AEO2020 was released in January 2020, preceding the COVID-19 pandemic, and therefore may not reflect changes to the market due to the pandemic that could impact the F-factor. Therefore, at this time EPA believes that AEO2020 warrants further evaluation prior to it serving as the basis for the F-factor for MY 2020 and later.

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<sup>10</sup> "E85 Flexible Fuel Vehicle Weighting Factor for Model Year 2019 Vehicles," EPA Office of Air and Radiation, CD-19-07, August 26, 2019.

<sup>11</sup> Annual Energy Outlook 2020, U.S. Energy Information Administration, January 29, 2020.

<sup>12</sup> Stakeholder letters and related materials are provided in Docket EPA-HQ-OAR-2020-0104.

<sup>13</sup> "Technical Memorandum Describing Potential Methods for Determining the Weighting Factor (F-Factor) for Testing E85 Flexible Fuel Vehicles (FFV) Light-duty Vehicles," from EPA Office of Transportation and Air Quality, Assessment and Standards Division to F-Factor Determination Docket EPA-HQ-OAR-2020-0104.

Given the potential impact that both of these factors have on the F-factor, and recognizing the need to provide certainty to the automakers for purposes of their planning for MY 2020, EPA has extended the use of the existing F-factor of 0.14 to model year 2020.<sup>14</sup> This provides the time necessary to request comment and consider further an appropriate methodology and related inputs as we move toward MY 2021 and beyond. The 0.14 F-factor will remain in place beyond MY2020 until such time as EPA adopts a revised F-factor based on new data and updated methodology.<sup>15</sup> While it is EPA's intention to update the F-factor for MYs 2021 and later, in the event that EPA is unable to resolve the uncertainties described above in a timely manner, this approach provides an F-factor of 0.14 for model years beyond 2020 as well. In that way, in the absence of a future EPA action, we are providing a level of certainty to manufacturers that there will be no gap in the F-Factor. The 0.14 F-factor will be available for use in compliance calculations for MY 2021 and later, unless and until it is changed by EPA through a new determination.

In order to better inform our approach to assessing an updated F-factor for MY2021 and later, EPA requests comment on the various data sources, analytical approaches, and potential alternatives to our draft methodology for assessing the F-factor for MY2021 and later. Specifically, EPA has prepared a technical memorandum to the docket for this action.<sup>16</sup> This technical memorandum includes an overview of the AEO2020 renewable

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<sup>14</sup> "E85 Flexible Fuel Vehicle Weighting Factor for Model Years 2020 and Later Vehicles," EPA Office of Air and Radiation, CD-20-12 (LDV/LDT/ICI/LIMO/HD2b/3).

<sup>15</sup> Ibid.

<sup>16</sup> "Technical Memorandum Describing Potential Methods for Determining the Weighting Factor (F-Factor) for Testing E85 Flexible Fuel Vehicles (FFV) Light-duty Vehicles," from EPA Office of Transportation and Air Quality, Assessment and Standards Division to F-Factor Determination Docket EPA-HQ-OAR-2020-0104.



fuel and E85 projections, our current methodology and the value of F that resulted from our analysis using AEO2020, historical E85 usage, related data such as FFV volumes, other data sources, and further consideration of the issues.

This technical memorandum also discusses technical information EPA has received on these topics from the automotive industry and the ethanol industry, and describes the associated alternative F-Factor values commensurate with the technical information we have assessed. The materials provided by the industry stakeholders are also available for review in the docket.<sup>17</sup>

EPA requests comment on the appropriate sources of data for establishing an updated F-factor for MY2021 and later vehicles, including the forecasting of E85 consumption and the use of AEO in general (e.g., AEO2021 when updated next year). EPA requests comment on data sources and analytical methods to account for future changes in E85 infrastructure and impact on E85 use. EPA also requests comment on the possibility and potential merits of EPA developing its own E85 forecasting methodology, including comments on an alternative F-factor methodology which relies upon historical trends for predicting future F-factor values. Finally, EPA requests comments on the calculation methodology described in EPA's technical memorandum.

EPA has consulted with the Department of Transportation on the development of the F-factor draft technical assessment, as the Corporate Average Fuel Economy (CAFE) regulations point to EPA's F-factor regulations for 2020 and later model years.<sup>18</sup>

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<sup>17</sup> See materials from industry stakeholders including the Alliance for Automotive Innovation and the Fuel Freedom Foundation, Docket EPA-HQ-OAR-2020-0104.

<sup>18</sup> See 40 CFR 600.510–12(c).

Interested parties should submit comments according to the guidelines described in this notice. EPA plans to consider the comments we receive, as well as additional available data, including AEO2021 when it is released, in determining an updated F-factor applicable for MY2021 and later.

**Sarah Dunham,**

*Director,*

*Office of Transportation and Air Quality,*

*Office of Air and Radiation.*

[FR Doc. 2020-18714 Filed: 8/25/2020 8:45 am; Publication Date: 8/26/2020]